

## RESPONSES TO MAJOR COMMENTS RECEIVED ON REVISED DRAFT REPORT:

### METHYLMERCURY IN FISH FROM LAKE PILLSBURY (LAKE COUNTY): GUIDELINES FOR SPORT FISH CONSUMPTION

Commenter: CA Health Security Catalyst, Humus Third Compost Issues Newsletter

Comments appear in quotation marks where they are directly quoted from the submission; paraphrased comments are in italics.

Comment 1: “Downstream users of the Eel River need to be informed, so that crawfish and other aquatic organisms that could be consumed by at risk human population groups, [sic] as well as farmers in Potter Valley that may use Eel River water diverted to the Russian River, for irrigating and ponding, during drier months that may impact methylmercury levels in organisms, although to a lesser degree.”

Response 1: It is important to distinguish water from fish when addressing concerns about mercury and methylmercury at Lake Pillsbury. In the aquatic environment, microbes in the sediment convert inorganic mercury to methylmercury. Methylmercury is the chemical form that accumulates in fish and is responsible for the toxicity found in humans following ingestion of excessive amounts of the chemical. In water, the chemical is found as mercury, which has different toxic properties, and has a drinking water standard for public health protection. Methylmercury tends to be produced and to accumulate in sediments and organisms living in the sediments. As a result, it accumulates in fish that eat these organisms and larger fish that eat the smaller fish. Mercury has been detected at relatively high levels in fish in Lake Pillsbury. The analytical method to detect mercury in fish measures total mercury, which includes inorganic and methylmercury. Studies have shown that about 95 percent of total mercury in fish is in the methylmercury form, and the health evaluation assumes that 100 percent of the total mercury measured is methylmercury. The analytical method to detect mercury in water also measures total mercury. Mercury has not been detected in water samples taken from Lake Pillsbury. Therefore, the water that flows out of Lake Pillsbury is not known to pose a health threat due to mercury. This explanation has been added to the report.

Comment 2: “The so called Final Draft that I downloaded most recently does not contain the one footnote, that I thought was appropriate in the copy of the draft I believe earlier in this comment period, on status of downstream testing. Please restore.”

Response 2: No footnotes or text have been deleted in the revised draft report. All fish that were sampled and analyzed were obtained from Lake Pillsbury itself, as described in the report. Regarding additional sampling, fish that live upstream and downstream from Lake Pillsbury have not been tested, due to limited resources. Therefore, this report is based on data available from the lake. However, because rainbow trout is a popular sport fish species and has not yet been tested at Lake Pillsbury, the North Coast Regional Water Quality Control Board plans to collect samples of rainbow trout from Lake Pillsbury to provide data for future consideration.

Comment 3: *The two large epidemiology studies designed to address exposure to methylmercury at the low levels that typically occur from consumption of seafood (as referenced in the report) should be thoroughly evaluated and incorporated into a new final draft report for public review before adopting the final document.* (Paraphrased)

Response 3: As indicated in the report, evaluation of newer studies of potential effects from exposure to methylmercury is an ongoing process. New epidemiological studies of the effects of exposure *in utero* through maternal consumption of fish have recently been published. The results of these studies have been the subject of considerable discussion among scientists, nationally and internationally. The results from different studies are somewhat disparate. However, overall, the effects that have been reported, if any, have been very subtle. As a result, several organizations have set guidelines for determining acceptable daily doses of methylmercury that are less stringent than the value currently recommended by U.S. Environmental Protection Agency (U.S. EPA). The debate among scientists is likely to continue for some time, and U.S. EPA does not intend to revise its reference dose in the near future. Nevertheless, the levels of mercury in fish at Lake Pillsbury are a concern using any of these criteria, and thus the advisory for Lake Pillsbury would not change on the basis of review of the newer studies. Therefore, the Office of Environmental Health Hazard Assessment (OEHHA) has proceeded in developing and issuing the advisory for Lake Pillsbury rather than delay the process pending further scientific evaluation.

Comment 4: “I don’t see information as to what foods, supplements, and health care practices, are able to bind up, block, or speed removal of methylmercury from humans. I requested such data at the Public Hearing in Lakeport. This omission invalidates the draft and public process.”

Response 4: Since the main source of exposure to methylmercury is through consumption of fish containing methylmercury, the best way to reduce methylmercury in the body is to eat less fish containing high levels of methylmercury. This practice will decrease exposure to methylmercury. Methylmercury will naturally leave the body over time, and the concentration in the body will decrease after intake is reduced or stopped. As mentioned in the report, about half of the methylmercury in the body will be eliminated about every two months. That is why women who plan to become pregnant are encouraged to reduce their exposure to methylmercury for about one year before becoming pregnant. No other methods (foods, supplements, or health care practices) for reducing methylmercury in the body have been identified in the scientific literature and, therefore, this type of information has not been provided in the documents we have prepared.